

描述 / Descriptions

表面贴装瞬态电压抑制器功率：400W,反向浪涌电压：5.0V~440V，SMA 封装。

Surface mount transient voltage suppressor power 400 watts,Stand-Off Voltage：5.0V~440V ,SMA package.

特征 / Features

玻璃钝化，低电感，适用表面贴装，符合 AEC-Q101 标准高可靠性要求，无卤产品。

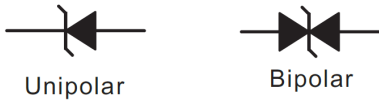
Glass passivated junction, Low inductance, For surface mounted applications, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

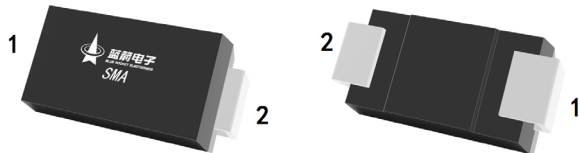
一般用途，满足汽车应用的严格要求。

General purpose, Meet the stringent requirements of automotive applications.

内部等效电路 / Equivalent Circuit

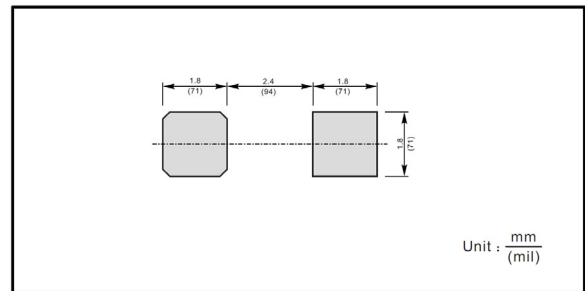


引脚排列 / Pinning



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter		符号 Symbol	数值 Rating	单位 Unit
Peak Pulse Power Dissipation on T _A =25°C (Note 1,2,4, Fig1)		P _{PPM}	400	W
Peak Forward Surge Current (Note 3, Fig 4)		I _{FSM} (UNI)	60	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)		I _{PPM}	see Table 1	A
ESD Voltage per IEC6100-4-2	Contact	V _{ESD1}	±30	KV
	Air	V _{ESD2}	±30	KV
Typical Thermal Resistance (Note 2)		R _{θJA}	100	°C/W
		R _{θJC}	20	°C/W
		R _{θJL}	25	°C/W
Operating Junction Temperature and Storage Temperature Range		T _J , T _{stg}	-55 ~ +150	°C

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. Peak Forward Surge Current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000μS.
5. P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

BRSMJ SeriesQ

Rev.B Jun.-2025



DATA SHEET

电性能参数 / Electrical Characteristics(Ta=25°C)

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMA	
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking	Ccode
UNI	BI	V	V	V	mA	uA	V	A	UNI	BI
BRSMJ5.0AQ	BRSMJ5.0CAQ	5	6.4	7	10	800	9.2	43.5	AEQ	WEQ
BRSMJ6.0AQ	BRSMJ6.0CAQ	6	6.67	7.37	10	800	10.3	38.8	AGQ	WGQ
BRSMJ6.5AQ	BRSMJ6.5CAQ	6.5	7.22	7.98	10	500	11.2	35.7	AKQ	WKQ
BRSMJ7.0AQ	BRSMJ7.0CAQ	7	7.78	8.6	10	200	12.0	33.3	AMQ	WMQ
BRSMJ7.5AQ	BRSMJ7.5CAQ	7.5	8.33	9.21	1	100	12.9	31.0	APQ	WPQ
BRSMJ8.0AQ	BRSMJ8.0CAQ	8	8.89	9.83	1	50	13.6	29.4	ARQ	WRQ
BRSMJ8.5AQ	BRSMJ8.5CAQ	8.5	9.44	10.4	1	20	14.4	27.8	ATQ	WTQ
BRSMJ9.0AQ	BRSMJ9.0CAQ	9	10	11.1	1	10	15.4	26.0	AVQ	WVQ
BRSMJ10AQ	BRSMJ10CAQ	10	11.1	12.3	1	5	17.0	23.5	AXQ	WXQ
BRSMJ11AQ	BRSMJ11CAQ	11	12.2	13.5	1	1	18.2	22.0	AZQ	WZQ
BRSMJ12AQ	BRSMJ12CAQ	12	13.3	14.7	1	1	19.9	20.1	BEQ	XEQ
BRSMJ13AQ	BRSMJ13CAQ	13	14.4	15.9	1	1	21.5	18.6	BGQ	XGQ
BRSMJ14AQ	BRSMJ14CAQ	14	15.6	17.2	1	1	23.2	17.2	BKQ	XKQ
BRSMJ15AQ	BRSMJ15CAQ	15	16.7	18.5	1	1	24.4	16.4	BMQ	XMQ
BRSMJ16AQ	BRSMJ16CAQ	16	17.8	19.7	1	1	26.0	15.4	BPQ	XPQ
BRSMJ17AQ	BRSMJ17CAQ	17	18.9	20.9	1	1	27.6	14.5	BRQ	XRQ
BRSMJ18AQ	BRSMJ18CAQ	18	20	22.1	1	1	29.2	13.7	BTQ	XTQ
BRSMJ20AQ	BRSMJ20CAQ	20	22.2	24.5	1	1	32.4	12.3	BVQ	XVQ
BRSMJ22AQ	BRSMJ22CAQ	22	24.4	26.9	1	1	35.5	11.3	BXQ	XXQ
BRSMJ24AQ	BRSMJ24CAQ	24	26.7	29.5	1	1	38.9	10.3	BZQ	XZQ
BRSMJ26AQ	BRSMJ26CAQ	26	28.9	31.9	1	1	42.1	9.5	CEQ	YEQ
BRSMJ28AQ	BRSMJ28CAQ	28	31.1	34.4	1	1	45.4	8.8	CGQ	YGQ
BRSMJ30AQ	BRSMJ30CAQ	30	33.3	36.8	1	1	48.4	8.3	CKQ	YKQ
BRSMJ33AQ	BRSMJ33CAQ	33	36.7	40.6	1	1	53.3	7.5	CMQ	YMQ
BRSMJ36AQ	BRSMJ36CAQ	36	40	44.2	1	1	58.1	6.9	CPQ	YPQ
BRSMJ40AQ	BRSMJ40CAQ	40	44.4	49.1	1	1	64.5	6.2	CRQ	YRQ
BRSMJ43AQ	BRSMJ43CAQ	43	47.8	52.8	1	1	69.4	5.8	CTQ	YTQ

BRSMJ SeriesQ

Rev.B Jun.-2025



DATA SHEET

电性能参数 / Electrical Characteristics(Ta=25°C)

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						SMA	
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}	Device Marking Ccode	
UNI	BI	V	V	V	mA	uA	V	A	UNI	BI
BRSMAJ45AQ	BRSMAJ45CAQ	45	50	55.3	1	1	72.7	5.5	CVQ	YVQ
BRSMAJ48AQ	BRSMAJ48CAQ	48	53.3	58.9	1	1	77.4	5.2	CXQ	YXQ
BRSMAJ51AQ	BRSMAJ51CAQ	51	56.7	62.7	1	1	82.4	4.9	CZQ	YZQ
BRSMAJ54AQ	BRSMAJ54CAQ	54	60	66.3	1	1	87.1	4.6	REQ	ZEQ
BRSMAJ58AQ	BRSMAJ58CAQ	58	64.4	71.2	1	1	93.6	4.3	RGQ	ZGQ
BRSMAJ60AQ	BRSMAJ60CAQ	60	66.7	73.7	1	1	96.8	4.1	RKQ	ZKQ
BRSMAJ64AQ	BRSMAJ64CAQ	64	71.1	78.6	1	1	103.0	3.9	RMQ	ZMQ
BRSMAJ70AQ	BRSMAJ70CAQ	70	77.8	86	1	1	113.0	3.5	RPQ	ZPQ
BRSMAJ75AQ	BRSMAJ75CAQ	75	83.3	92.1	1	1	121.0	3.3	RRQ	ZRQ
BRSMAJ78AQ	BRSMAJ78CAQ	78	86.7	95.8	1	1	126.0	3.2	RTQ	ZTQ
BRSMAJ85AQ	BRSMAJ85CAQ	85	94.4	104	1	1	137.0	2.9	RVQ	ZVQ
BRSMAJ90AQ	BRSMAJ90CAQ	90	100	111	1	1	146.0	2.7	RXQ	ZXQ
BRSMAJ100AQ	BRSMAJ100CAQ	100	111	123	1	1	162.0	2.5	RZQ	ZZQ
BRSMAJ110AQ	BRSMAJ110CAQ	110	122	135	1	1	177.0	2.3	SEQ	VEQ
BRSMAJ120AQ	BRSMAJ120CAQ	120	133	147	1	1	193.0	2.1	SGQ	VGQ
BRSMAJ130AQ	BRSMAJ130CAQ	130	144	159	1	1	209.0	1.9	SKQ	VKQ
BRSMAJ150AQ	BRSMAJ150CAQ	150	167	185	1	1	243.0	1.6	SMQ	VMQ
BRSMAJ160AQ	BRSMAJ160CAQ	160	178	197	1	1	259.0	1.5	SPQ	VPQ
BRSMAJ170AQ	BRSMAJ170CAQ	170	189	209	1	1	275.0	1.5	SRQ	VRQ
BRSMAJ180AQ	BRSMAJ180CAQ	180	201	222	1	1	292.0	1.4	STQ	VTQ
BRSMAJ200AQ	BRSMAJ200CAQ	200	224	247	1	1	324.0	1.2	SVQ	VVQ
BRSMAJ220AQ	BRSMAJ220CAQ	220	246	272	1	1	356.0	1.1	SXQ	VXQ
BRSMAJ250AQ	BRSMAJ250CAQ	250	279	309	1	1	405.0	1.0	SZQ	VZQ
BRSMAJ300AQ	BRSMAJ300CAQ	300	335	371	1	1	486.0	0.8	TEQ	UEQ
BRSMAJ350AQ	BRSMAJ300CAQ	350	391	432	1	1	567.0	0.7	TGQ	UGQ
BRSMAJ400AQ	BRSMAJ350CAQ	400	447	494	1	1	648.0	0.6	TKQ	UKQ
BRSMAJ440AQ	BRSMAJ400CAQ	440	492	543	1	1	713.0	0.6	TMQ	UMQ

电参数曲线图 / Electrical Characteristic Curve

Fig.1 Peak Pulse Power Rating Curve

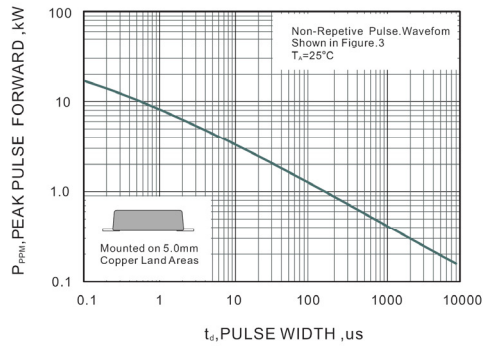


Fig.2 Forward Current Derating Curve

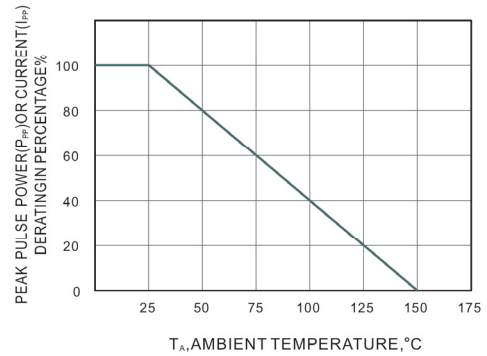


Fig.3 Pulse Waveform

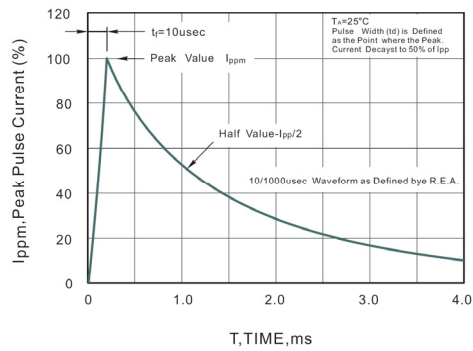
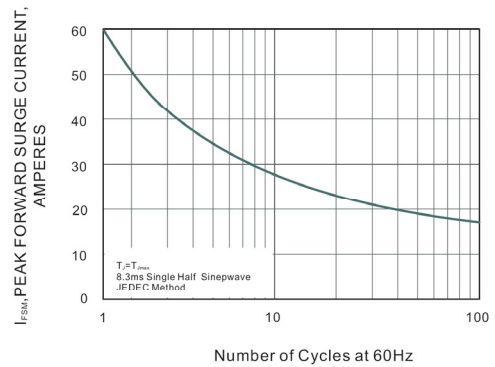
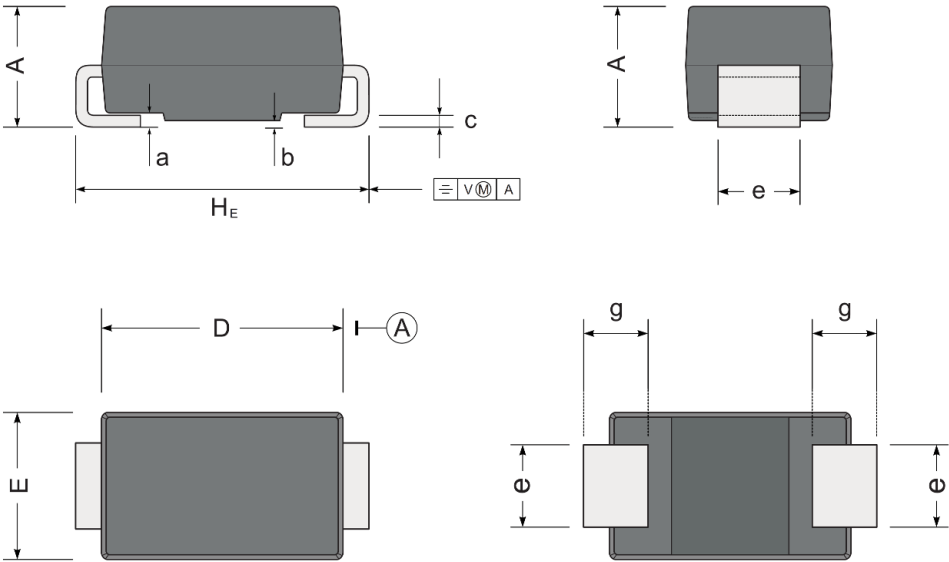


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



外形尺寸图 / Package Dimensions

SMA



UNIT		A	D	E	H_E	c	e	g	b	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.2	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	0.05	
mil	max	87	181	106	205	12	63	59	7.9	12
	min	75	157	91	185	6	51	35	2	

印章说明 / Marking Instructions



说明：

AE ： 为型号代码

Q： 为汽车无卤产品标识

**** ： 为生产批号代码，随生产批号变化

Note:

AE ： Product Type Code

Q: Automobile halogen-free product Code

**** ： Lot No. Code, code change with Lot No.

印章说明 / Marking Instructions



说明：

WE ： 为型号代码

Q： 为汽车无卤产品标识

**** ： 为生产批号代码，随生产批号变化

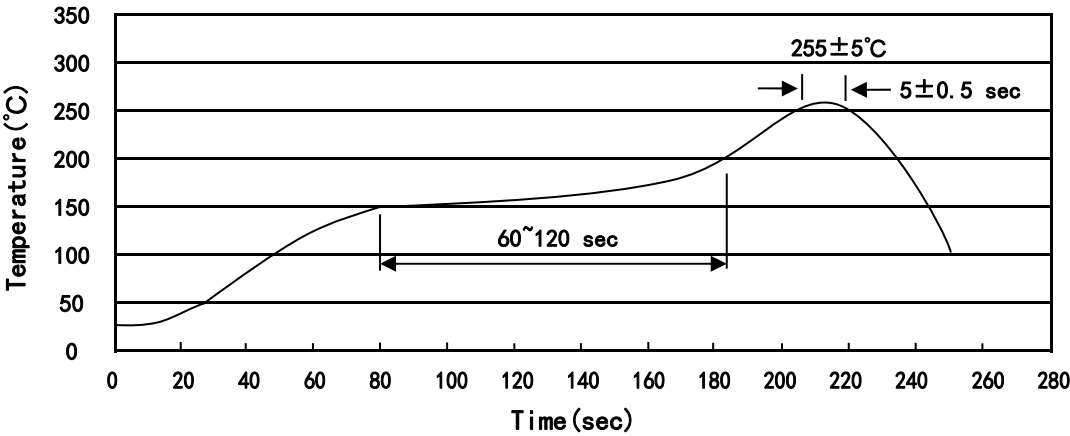
Note:

WE ： Product Type Code

Q: Automobile halogen-free product Code

**** ： Lot No. Code, code change with Lot No.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



- 说明 :
1、预热温度 150 ~ 200℃ , 时间 60 ~ 120sec;
2、峰值温度 255±5℃ , 时间持续为 5±0.5sec;
3、焊接制程冷却速度为 2 ~ 10℃/sec.
- Note:
1.Preheating:150~200℃, Time:60~120sec.
2.Peak Temp.:255±5℃, Duration:5±0.5sec.
3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度 : 260±5℃ 时间 : 10±1 sec. Temp.:260±5℃ Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SMA	5,000	2	10,000	7	70,000	13" ×12	336×336×40	380×335×366

使用说明 / Notices